

Pairing B Wiring and Setup: Symbio Condenser or Heat Pump with SZVAV / 2 Speed Air Handler

Wiring and Setup: Symbio Condenser or Heat Pump with SZVAV / 2 Speed Air Handler

Condenser: Odyssey Condenser with Symbio 700 Controls

AHU: Odyssey AHU with Symbio 700 boards and model number digit 15 = D

Symbio 700 Quick Links

- [Symbio™ 700 - Where to download the Service & Installation Mobile Phone App](#)
- [Symbio™ 700 - Bluetooth Connection Instructions](#)
- [Symbio™ 700 - Precedent or Odyssey - How to configure or edit configurations using the Mobile Phone App](#)

How many wires do I need?

1 - Up to 7 conductor thermostat wire between the thermostat OR zone sensor and condenser

1 - Up to 6 conductor control wire between the AHU and condenser

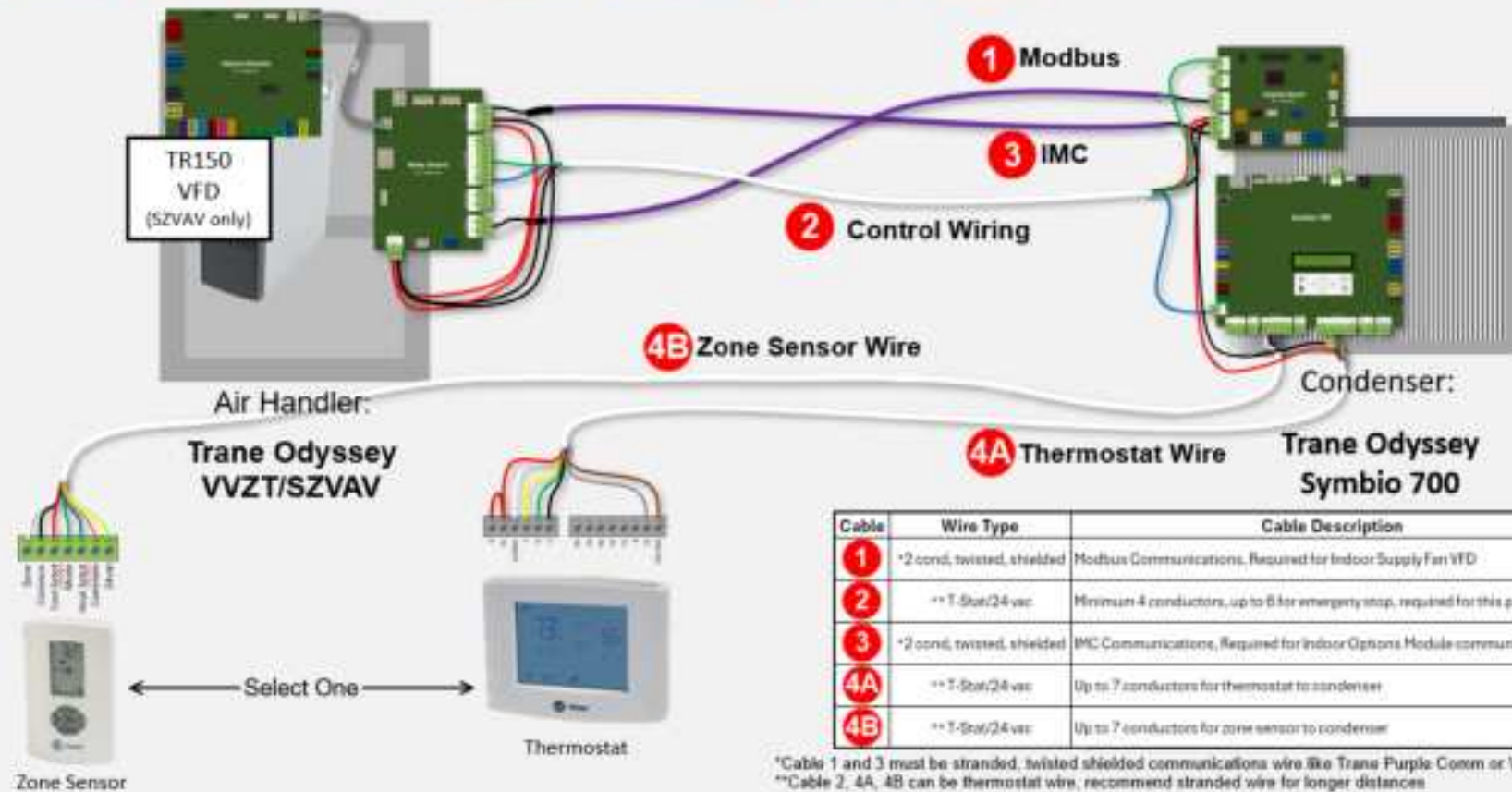
2 - 2 conductor twisted, stranded, twisted, shielded communication wires between the AHU and condenser.

Cable Identification



Pairing B (Thermostat or Zone Sensor)

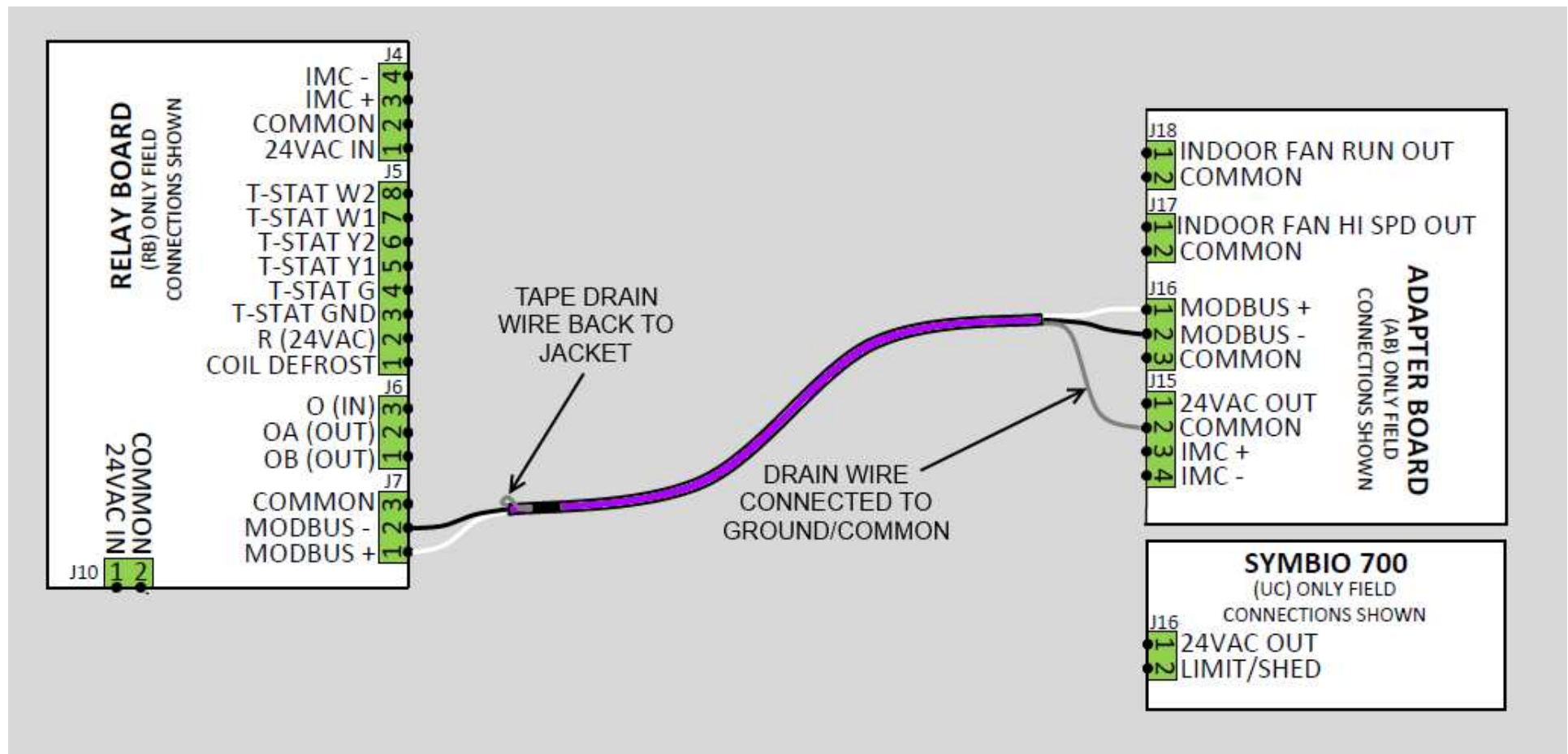
Odyssey SZVAV AHU (15th digit = D) with Odyssey Condenser w/ Symbio 700 Controls



AHU Wiring to Condenser

Cable #1 Modbus Communication

AHU			to	Condenser		
Cable	Board	Terminal		Board	Terminal	Description
1	Relay Board	J7-1		Adapter Board	J16-1	Modbus + Communications for VFD
	Relay Board	J7-2		Adapter Board	J16-2	Modbus - Communications for VFD
				Adapter Board	J15-2	Comm drain (shield) wire, taped back at AHU, do not connect at Relay Board

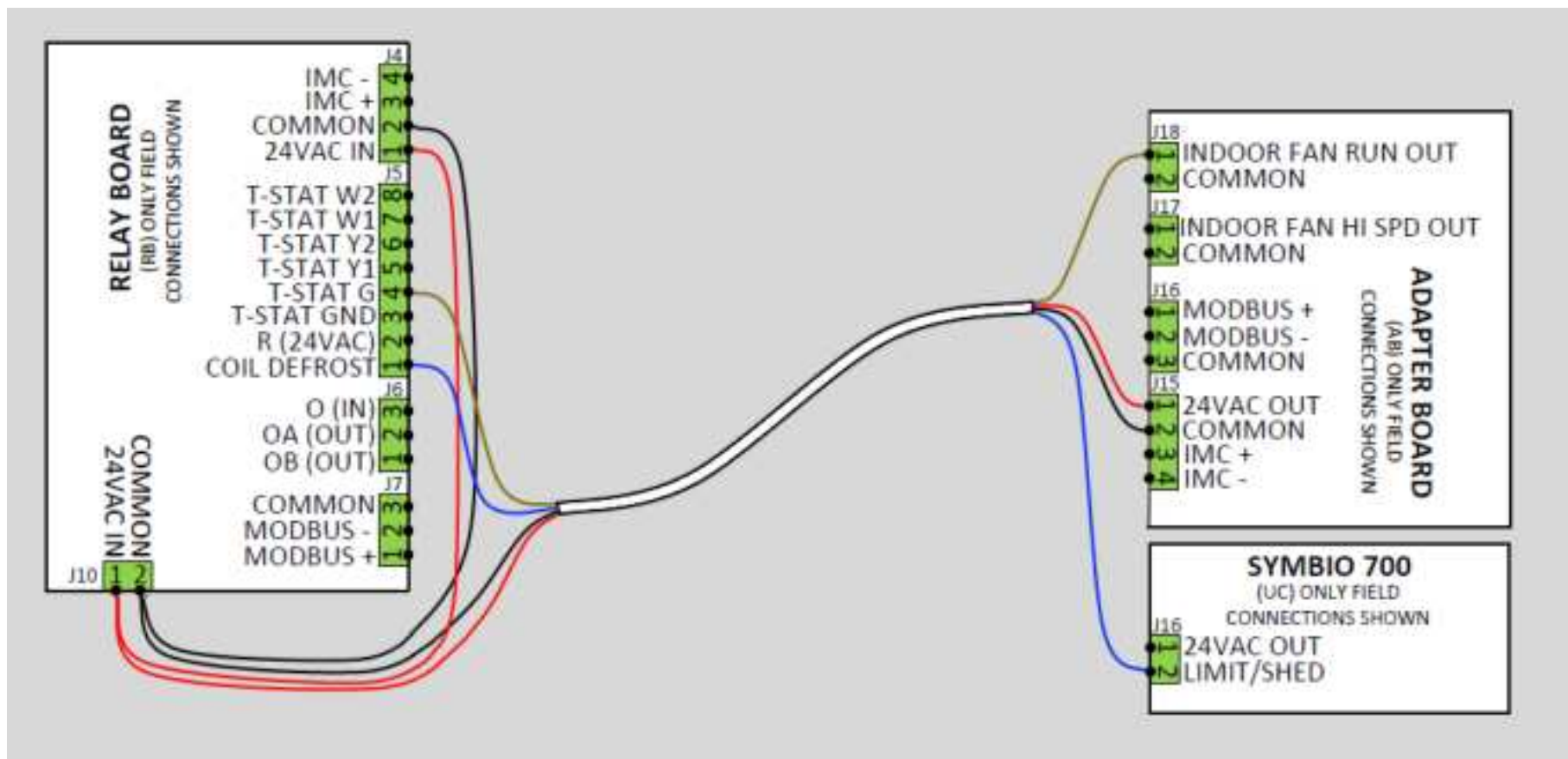


AHU Wiring to Condenser

Cable #2 Control Wiring

	AHU		to	Condenser		
Cable	Board	Terminal		Board	Terminal	Description
2	Relay Board	J10-1		Adapter Board	J15-1	24vac to power Relay Board
	Relay Board	J10-2		Adapter Board	J15-2	Comm/Neutral for Relay Board
	Relay Board	J5-1		Symbio 700	J16-2	Evap coil froststat, compressor shutdown
	Relay Board	J5-4		Adapter Board	J18-1	Fan interlock for electric heat operation

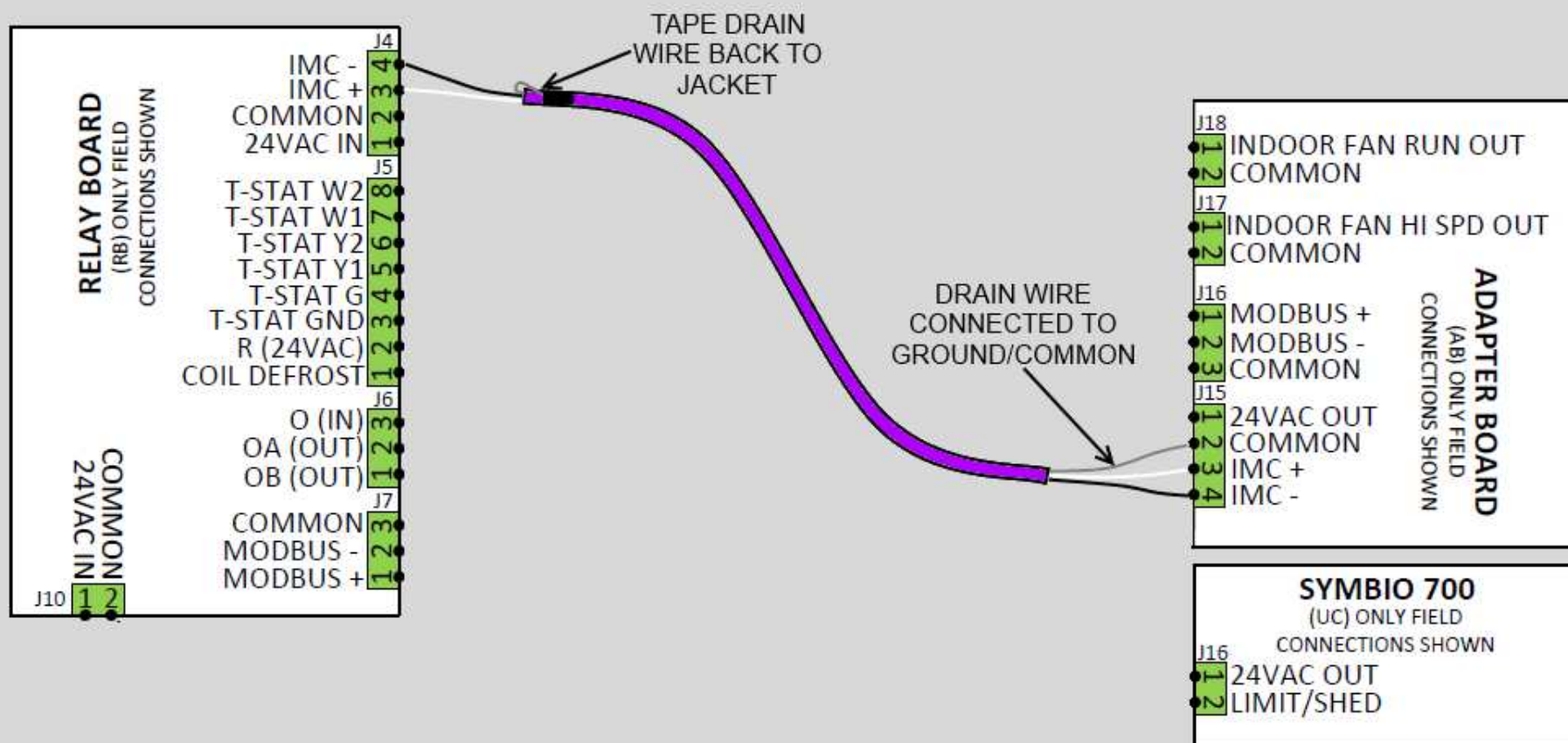
N/A	Relay Board	J10-1		Relay Board	J4-1	24vac to IMC link, power for Indoor OM
	Relay Board	J10-2		Relay Board	J4-2	24 neutral/common to IMC link, power for Indoor OM



AHU Wiring to Condenser

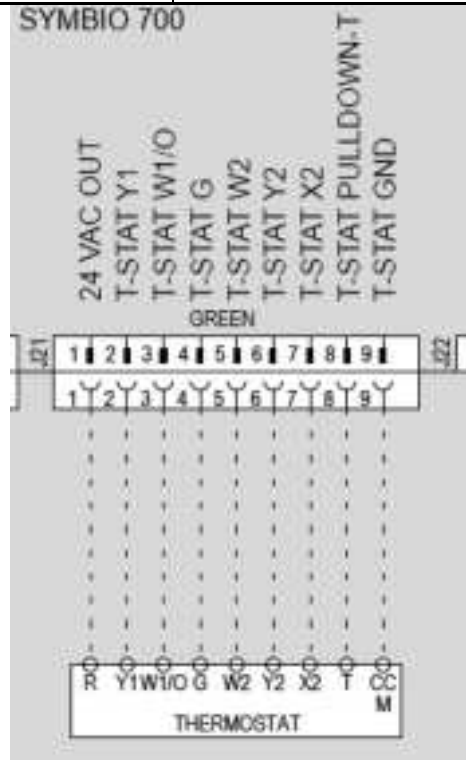
Cable #3 IMC Communication

AHU			to	Condenser		
Cable	Board	Terminal		Board	Terminal	Description
3	Relay Board	J4-3		Adapter Board	J15-3	IMC + Communications for Indoor OM
	Relay Board	J4-4		Adapter Board	J15-4	IMC - Communications for Indoor OM
				Adapter Board	J15-2	Comm drain (shield) wire, taped back at AHU, do not connect at Relay Board



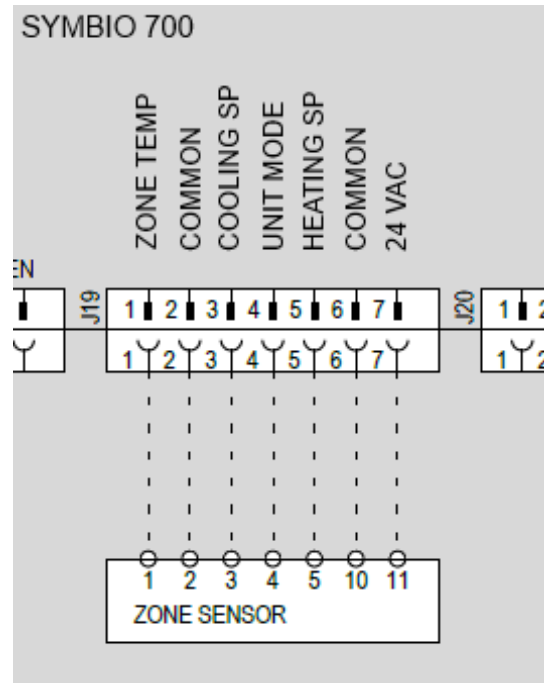
Condenser to Thermostat Cable #4A Thermostat Wiring

Cable	Condenser		to	Thermostat		Description
	Board	Terminal		Board	Terminal	
4A	Symbio 700	J21-1 (24vac)		Tstat	R	24vac
	Symbio 700	J21-2 (Y1)		Tstat	Y1	Cool1 (Heat call on Heat Pump)
	Symbio 700	J21-3 (W1/O)		Tstat	W1 or O/B	Heat1 (reversing valve call on Heat Pump)
	Symbio 700	J21-4 (G)		Tstat	G	Fan
	Symbio 700	J21-5 (W2)		Tstat	W2	Heat2 (Aux heat on Heat Pump)
	Symbio 700	J21-6 (Y2)		Tstat	Y2	Cool2
	Symbio 700	J21-7 (X2)		Tstat	Aux	Emergency Heat on Heat Pump (will shut down compressors)
	Symbio 700	J21-8 (T)		Tstat	Pulldown	Heat Anticipator/Pulldown (not commonly used)
	Symbio 700	J21-9 (Comm)		Tstat	Comm	Common/Neutral for tstat



Condenser to Thermostat Cable #4B Thermostat Wiring

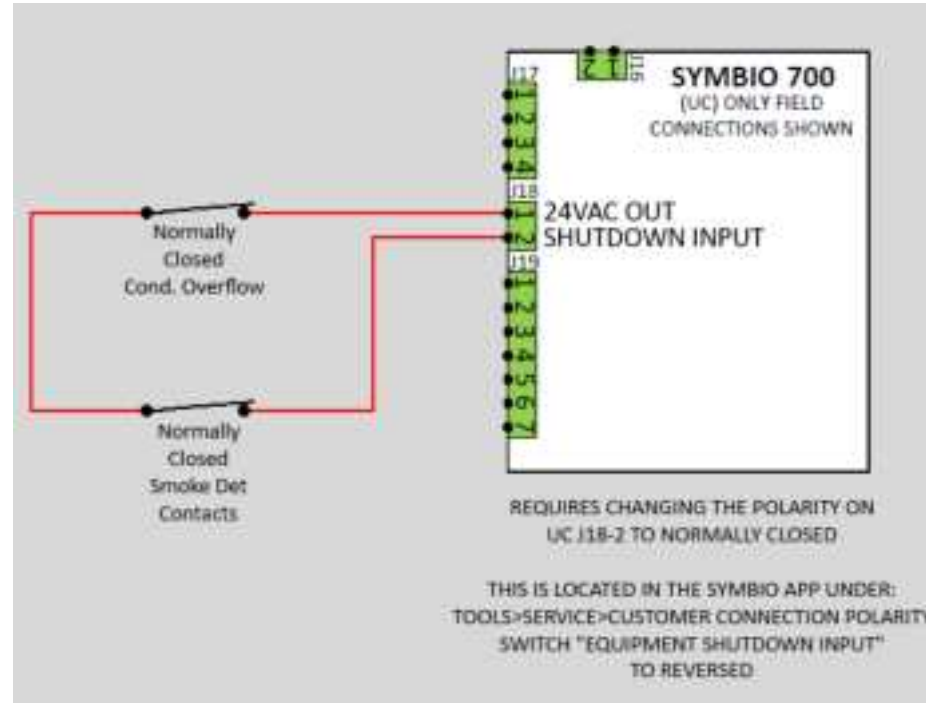
Cable	Condenser		to	Zone Sensor		Description
	Board	Terminal		Board	Terminal	
4B	Symbio 700	J19-1		Zone Sensor	1	Zone Temperature
	Symbio 700	J19-2		Zone Sensor	2	Common
	Symbio 700	J19-3		Zone Sensor	3	Cooling Setpoint
	Symbio 700	J19-4		Zone Sensor	4	Unit Mode
	Symbio 700	J19-5		Zone Sensor	5	Heating Setpoint
	Symbio 700	J19-6		Zone Sensor	6	Common
	Symbio 700	J19-7		Zone Sensor	7	24 vac



*BAYSENS135A Shown

Emergency Stop Wiring From Stop Devices to Symbio 700

	Stop Device		to	Condenser		
Cable	Board	Terminal		Board	Terminal	Description
N/A	Stop Device	Common		Symbio 700	J18-1	24vac Out to Stop Devices
	Stop Device	Norm. Closed		Adapter Board	J18-2	24vac Input from Stop Devices



Wiring above reflects normally closed safeties. Typically, condensate overflow switches (or pan switches) are normally closed devices. If using normally open devices, they can be wired in parallel, and the Customer Connection Polarity does not need to be changed.

For more information see the links below:

- [Trane Commercial Help Center - *LCU Symbio 700 Emergency Stop Input](#)
- [Trane Commercial Help Center - Symbio 700 Demand Limit and Emergency Stop Polarity](#)

Configuring Symbio 700

Odyssey condensers can be paired with many different Odyssey AHUs, 3rd party AHUs and indoor coil assemblies. Due to this, Symbio 700 must be configured for the connected AHU, installed accessories, and controlling sensor/thermostat.

For Variable Volume Zone Temperature (VVZT or formerly known as SZVAV) operation set the configuration as follows (requires zone sensor):

- **System Type** = VVZT (requires zone sensor for actual VVZT operation, tstat will operate as CVZT)
- **Efficiency** = Standard B
- **Indoor Fan Type** = Variable Speed (should set automatically)
- **Space Controller** = Single Setpoint Zone sensor, or Dual Setpoint Zone Sensor
- **Frostat** = Installed (should install automatically)
- **Discharge Temperature Sensor** = Installed (should install automatically)
- **Field installed electric heat only**
 - **TTA condenser**
 - **Primary Heating Source** = Electric
 - **Primary Heating Stages** = 1 or 2 (depending on electric heat kit stages)
 - **TWA condenser**
 - **Secondary Heating Source** = Electric
 - **Secondary Heating Stages** = 1 or 2 (depending on electric heat kit stages)

For Multispeed fan operation set the configuration as follows:

- **System Type** = CVZT (thermostat or zone sensor)
- **Efficiency** = Standard B
- **Indoor Fan Type** = Multi Speed
- **Space Controller** = Conventional Thermostat, Single Setpoint Zone sensor, or Dual Setpoint Zone Sensor
- **Frostat** = Installed
- **Discharge Temperature Sensor** = Installed (with zone sensor will use DAT logic for compressor staging) or Not Installed

- **Field installed electric heat only**
 - **TTA condenser**
 - **Primary Heating Source** = Electric
 - **Primary Heating Stages** = 1 or 2 (depending on electric heat kit stages)
 - **TWA condenser**
 - **Secondary Heating Source** = Electric
 - **Secondary Heating Stages** = 1 or 2 (depending on electric heat kit stages)

Once changes are complete, hit the check mark (APPLY on Apple devices) at the top of the screen (if the check mark is grey, look for options with --- and fill them in)

After changes are saved, the condenser will automatically start looking for the VFD and Indoor Options Module (big board in AHU).

The supply fan will engage with a call for fan.